

CLAIMS**WHAT IS CLAIMED IS:**

1. A corona suppression apparatus for a dynamoelectric machine having a stator coil covered with a corona suppression covering, the apparatus comprising a member conducting to ground abutting a top layer of the corona suppression covering proximate an overlap region of a comparatively high resistivity corona suppression covering portion and a comparatively low resistivity corona suppression covering portion.

2. The apparatus of claim 1, the member positioned in a gap between the corona suppression covering and a stator core clamping finger extending from a stator core proximate the stator coil.

3. The apparatus of claim 2, wherein the member is compression biased between the corona suppression covering and the stator core clamping finger.

4. The apparatus of claim 3, wherein the member is compressed by about 5% to 35% from a free state.

5. The apparatus of claim 2, wherein the member comprises a protrusion cooperatively associated with a recess in the finger for positioning the member.

6. The apparatus of claim 2, wherein the dynamoelectric machine comprises two adjacent stator coil end turns covered with corona suppression coverings and the member comprises an axial length spanning a space between the two adjacent end turns to abut the corona suppression covering on each end turn.

7. The apparatus of claim 1, wherein the member comprises a resistivity within about 50% to 200% of a resistivity of the low resistivity corona suppression covering portion.

8. The apparatus of claim 1, wherein the member comprises a surface resistivity between about 1 kilo-ohm per square inch to 40 kilo-ohms per square inch.

9. The apparatus of claim 1, wherein the member comprises a compound selected from the group consisting of graphite, carbon black, and silicone.

10. The apparatus of claim 1, wherein the member comprises a first portion and a second portion joined to form a collar positioned around the stator coil proximate the overlap region.

11. The apparatus of claim 1, wherein the top layer comprises the comparatively high resistivity corona suppression covering portion.

12. The apparatus of claim 1, wherein the top layer comprises the comparatively low resistivity corona suppression covering portion.

13. The apparatus of claim 1, further comprising a lubricant layer provided between the member and the top layer of the corona suppression covering.

14. A corona suppression apparatus for a dynamoelectric machine having a stator coil covered with a corona suppression covering, the apparatus comprising a clamping member exerting a compressive force of between about 15 pounds per square inch to 150 pounds per square inch on an overlap region between a comparatively high resistivity corona suppression covering portion and a comparatively low resistivity corona suppression covering portion.

15. The apparatus of claim 14, the clamping member positioned in a gap between the corona suppression covering and a stator core clamping finger extending from the stator core proximate the stator coil.

16. The apparatus of claim 15, wherein the clamping member is compression biased between the corona suppression covering and the stator core clamping finger.

17. The apparatus of claim 16, wherein the clamping member is compressed by about from 5% to 35% from a free state.

5 18. The apparatus of claim 16, wherein the clamping member comprises a modulus of compressibility between about 300 pounds per square inch to 4000 pounds per square inch.

10 19. The apparatus of claim 15, wherein the clamping member comprises a protruding member cooperatively associated with a recess in the finger for positioning the member.

20. The apparatus of claim 14, wherein the clamping member comprises a semiconductive silicone compound.

15 21. The apparatus of claim 14, wherein the clamping member comprises an insulating polymeric compound.

20 22. The apparatus of claim 14, wherein the insulating polymeric compound is selected from the group consisting of a polyethylene compound, a polytetrafluoroethylene compound, a polyester compound, and a polyamide compound.

25 23. The apparatus of claim 14, wherein the dynamoelectric machine comprises two adjacent stator coil end turns covered with corona suppression coverings and the member comprises an axial length spanning a space between the two adjacent end turns to abut the corona suppression covering on each end turn.

30 24. The apparatus of claim 14, wherein the member comprises a first portion and a second portion joined to form a collar positioned around the stator coil proximate the overlap region.

25. A dynamoelectric machine comprising:

a stator core;

a stator coil extending from the stator core;

a corona suppression covering comprising an overlap region of a comparatively

5 high resistivity corona suppression covering portion and a comparatively low resistivity corona suppression covering portion; and

a member conducting to ground abutting the overlap region.

26. The dynamoelectric machine of claim 25, wherein the member is further

10 positioned in a gap between the corona suppression covering and a stator core clamping finger extending from the stator core proximate the stator coil, the member abutting the stator core clamping finger

27. The dynamoelectric machine of claim 25, wherein the member exerts a

15 compressive force of between about 15 pounds per square inch to 150 pounds per square inch.